



AIRWALL

Installation Manual

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ANIM13CI Rev. C

UPDATES		
DATES	UPDATE	DESCRIPTION
24 / 07 / 2019	A	First Edition
06 / 09 / 2019	B	Control Box up to 6 ud
16 / 03 / 2020	C	Update 2020 product

Technical documents are regularly updated. Anemoi reserves the right to modify the contents of this manual, in full or in part, without warning.

TABLE OF CONTENTS

SAFETY..... 4

1 INTRODUCTION..... 5

2 TECHNICAL CHARACTERISTICS 6

3 DELIVERY 7

 3.1 Package Dimensions & Weight 7

 3.2 Packing list 7

4 MECHANICAL INSTALLATION 8

 4.1 Wall aperture measurements..... 9

 4.2 Control box installation 10

5 ELECTRICAL INSTALLATION 11

 5.1 Box Control..... 12

 5.2 Modbus control (optional) 12

 5.2.1 Multiple Fan Installation..... 13

 5.2.2 Recommendations 14

6 OPERATION..... 15

7 BASIC OPERATIONS..... 16

 7.1 Operating panel 16

 7.2 The data display 16

8 FAULT DIAGNOSIS 17

9 MAINTENANCE..... 18

SAFETY

Before the installation, read the following warning and caution instructions:



WARNING!

Do NOT install, repair or clean the fan while it is in operation or connected to the power supply. Failure to do so may result in serious injury or death.

Do NOT install, handle, repair or clean the fan with wet hands. Failure to do so may result in serious injury or death.

Do NOT use wires with worn or damaged insulation. Doing so may result in serious or fatal electrical shock, fire or other accidents.

Ensure that the wires are held securely and protected from abrasion, chaffing, overload or other damage. Risk of serious or fatal electrical shock, fire or other accidents.

Turn Off power to the fan if you detect any damage. Risk of serious or fatal electrical shock, fire or other accidents.

Do NOT connect a damaged fan to the power supply. Risk of serious or fatal electrical shock, fire or other accidents.



CAUTION!

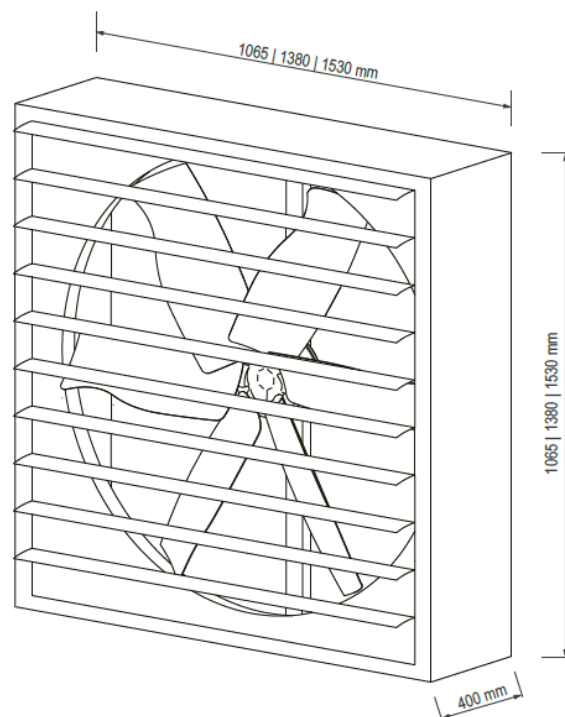
Use proper lifting equipment to handle the fan. Otherwise, the fan could be damaged and there is risk of accident.

Follow the instructions and recommendations contained in this manual carefully. Failure to do so may result in incorrect installation.

1 INTRODUCTION

The Anemoi AIRWALL fan has been designed to extract a large volume of air from the interior to the exterior of buildings. This fan is used to increase comfort, drawing hot air from inside buildings to the outside, allowing air renewal and extraction of stale indoor air.

The AIRWALL fan can be controlled directly from a keyboard located in a control box or through general control via Modbus.



2 TECHNICAL CHARACTERISTICS

	AIRWALL 100	AIRWALL 120	AIRWALL 150
GENERAL CHARACTERISTICS			
Diameter	0.95m	1.27m	1.43m
Blades number	5	5	5
Standard colour	Galvanized steel		
MOTOR CHARACTERISTICS			
Motor power	0.73 kW	1 kW	1.2 kW
Supply Voltage	200VAC ~ 240VAC I, 50/60 Hz 100VAC ~ 120VAC I, 50/60Hz		
Maximum speed	550rpm	450rpm	370rpm
Protection degree	IP55	IP55	IP55
Sound level	<63dBA	<68dBA	<70dBA
Total weight	37kg	62kg	70kg
Motor type	DC Brushless motor		
FAN PERFORMANCE			
Airflow	40,020m ³ /h	60,300m ³ /h	62,220m ³ /h
Coverage	240m ²	360m ²	375m ²
CONTROL			
Controller	Control panel		
REGULATION			
Directives	Low Voltage Directive 2014/35/EU Electromagnetic Compatibility 2014/30/EU		
Standards	EN 60335-1:2012+A11:2010+AC2014 EN 60335-2-80:2003+A1:2004+A2:2009 EN62233:2008+AC:2008 EN 55014-1:2017, EN 55014-2:2015 EN 61000-3-2:2014, EN 61000-3-3:2013		

3 DELIVERY

The Anemoi AIRWALL fan is delivered completely assembled and packed in a single package. Handle the product carefully using appropriate lifting mechanisms to avoid possible damage.



CAUTION!

Use proper lifting equipment to handle the fan box. Otherwise, the fan could be damaged and there is risk of accident.

3.1 Package Dimensions & Weight

The dimensions and weights of these boxes are listed in the following table:

Model	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)	WEIGHT (kg)
AIRWALL 100	1065	400	1065	
AIRWALL 120	1380	400	1380	
AIRWALL 150	1530	400	1530	

3.2 Packing list

The following tables include the different pieces sent inside the boxes. Please check the status and quantity of the fan equipment and the supporting parts immediately after you have opened the box to make sure that the goods received are in accordance with your order. If parts are missing or damaged, please inform our company's responsible person immediately for revision.

Wood box:

N	Name	Qty
1	Fan	1 pc
2	Box Control	1 pc

4 MECHANICAL INSTALLATION



CAUTION!

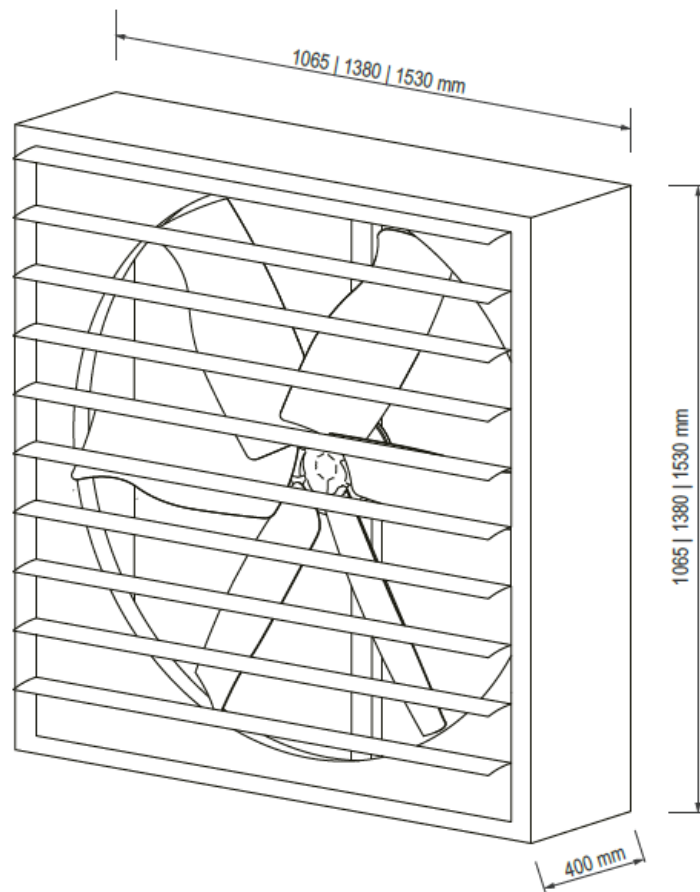
Follow the instructions and recommendations contained in this section carefully. Failure to do so may result in incorrect installation.

The Anemoi AIRWALL fan has been designed for wall installation. Hollow, pre-frame and facade frame must be made to install the fan. The wall and frame must be sufficiently supportive to support the weight of the fan and fix it properly to avoid overturning.

The Anemoi AIRWALL fan is designed so that slats are outside the building and the fan inside.

Before installing the fan, protect and signal the work area to prevent someone from going under. It is recommended to fence a minimum radius of 4 meters around the fan.

Respect local and national regulations regarding installations at height.



**SAFETY!**

Ensure that the ceiling area chosen can hold the weight and torque of the fan, and that there are no obstacles in its operating range. Failure to do so may result in equipment damage or accident.

Ensure sign and protect the working area. Failure to do so may result in serious injury or death.

Ensure following any national or local regulation. Failure to do so may result in serious injury or death.

Do NOT install the fan while it is in operation or connected to the power supply. Doing so may result in serious or fatal electrical shock.

4.1 Wall aperture measurements

The frame and pre-frame measurements to be carried out for the correct assembly of the AIRWALL are established. These measures already include 1cm of security on each side that allow clearance for the correct placement of the fan.

The seals must be sealed with silicone or other sufficiently strong material, in order to avoid leaks or oscillations of the fan.

Fan	Wall aperture measurements
AIRWALL 100	107 x 107 cm
AIRWALL 120	139 x 139 cm
AIRWALL 150	154 x 154 cm

**CAUTION!**

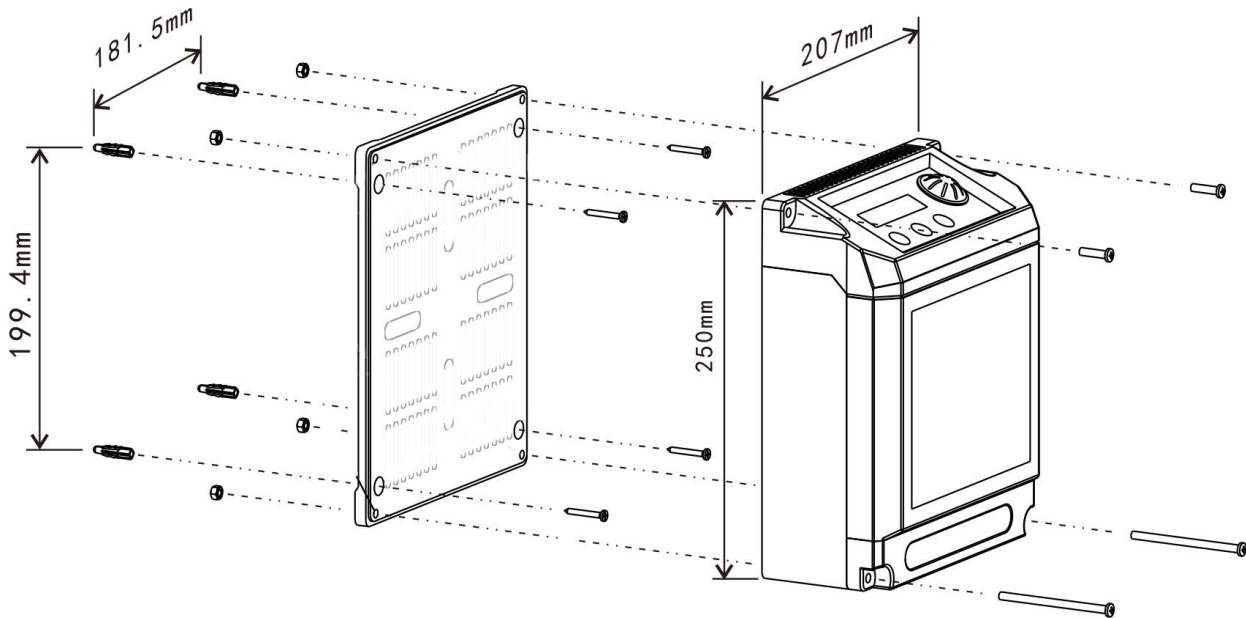
Install the fan in stable hollow. Otherwise, the fan may be damaged.

Be sure to seal the joints. Otherwise, the fan may be damaged.

Protect the fan if there is a possibility of impacts. Otherwise, the fan may be damaged.

4.2 Control box installation

The Anemoi AIRBEAM is controlled by a very intuitive screen installed in the control box. The control box is designed to be screwed to the wall. For these purposes, the box has four holes in the corners. The measurements of the box and perforations are detailed below:



CAUTION!

Install the control box in a safe area. Failure to do so may result in equipment damage.

Install the control box at a distance less than 12 m from the fan. Failure to do so the power supply of the equipment may be insufficient.

5 ELECTRICAL INSTALLATION



WARNING!

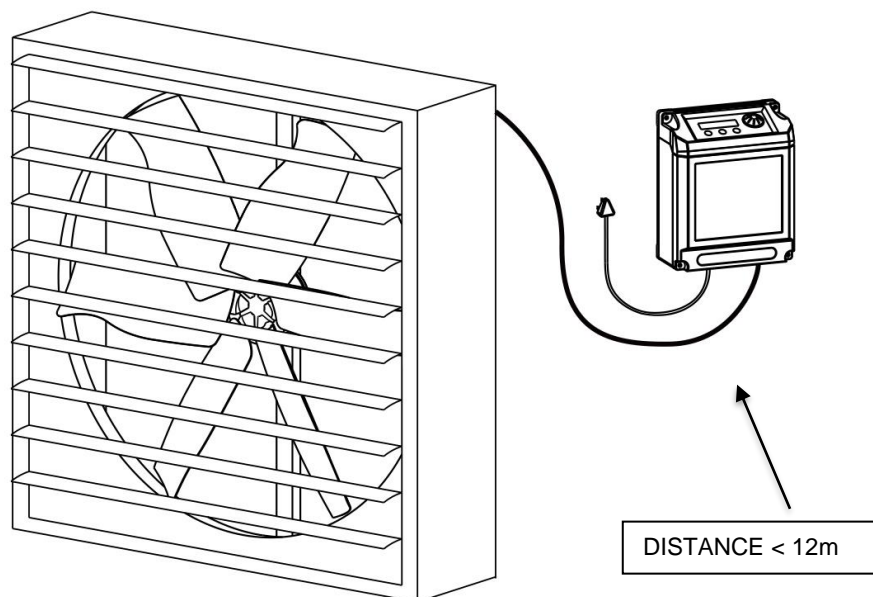
Follow the instructions and recommendations contained in this section. Failure to do so may result in serious injury or death.

Install the control box at a distance less than 20m from the fan. Failure to do so the power supply of the equipment may be insufficient

The Anemoi AIRWALL motor is controlled by an external control panel. To ensure the fan operation, the control box must be connected to the fan and the power supply.

All cabling must comply with national and local regulations on cable cross-sections and ambient temperature. **Copper (60°C/75°C) conductors are recommended.**

To ensure the fan operation, the control box must be connected to the fan and the power supply. The distance between the control box and the equipment must be less than 12 m and the cable with a minimum section of 1.5 mm². Follow any national or local regulation regarding electrical installations.



CAUTION!

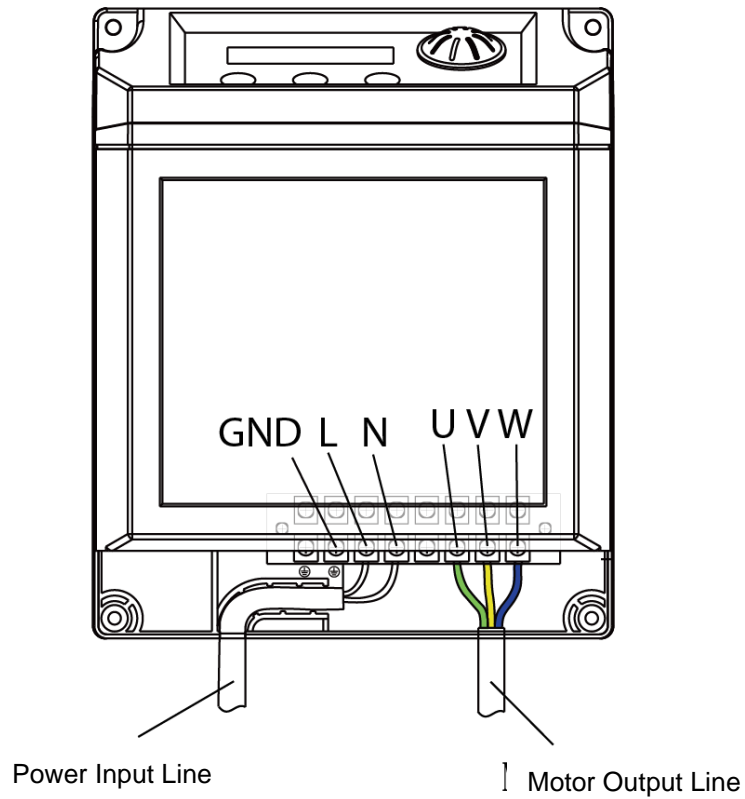
Follow national and local electrical regulations. Failure to do so may result in serious injury or death.

Check that power supply is disconnected before starting the installation. Failure to do so may result in serious injury or death.

Do NOT install the fan with wet hands. Failure to do so may result in serious injury or death.

5.1 Box Control

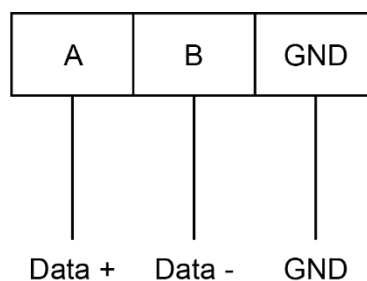
The connections of the control box are detailed below, the terminals are W, V, U:



5.2 Modbus control (optional)

The Anemoi AIRWALL fan can be controlled by external controller using modbus connexion, please see the *Modbus Configuration Parameters* document provided by Anemoi. The external control is connected directly to the fan board using shielded cable type **modbus RS485 2x2x0.50 mm² POSCY**.

The following figure shows the detail of the control connectors:

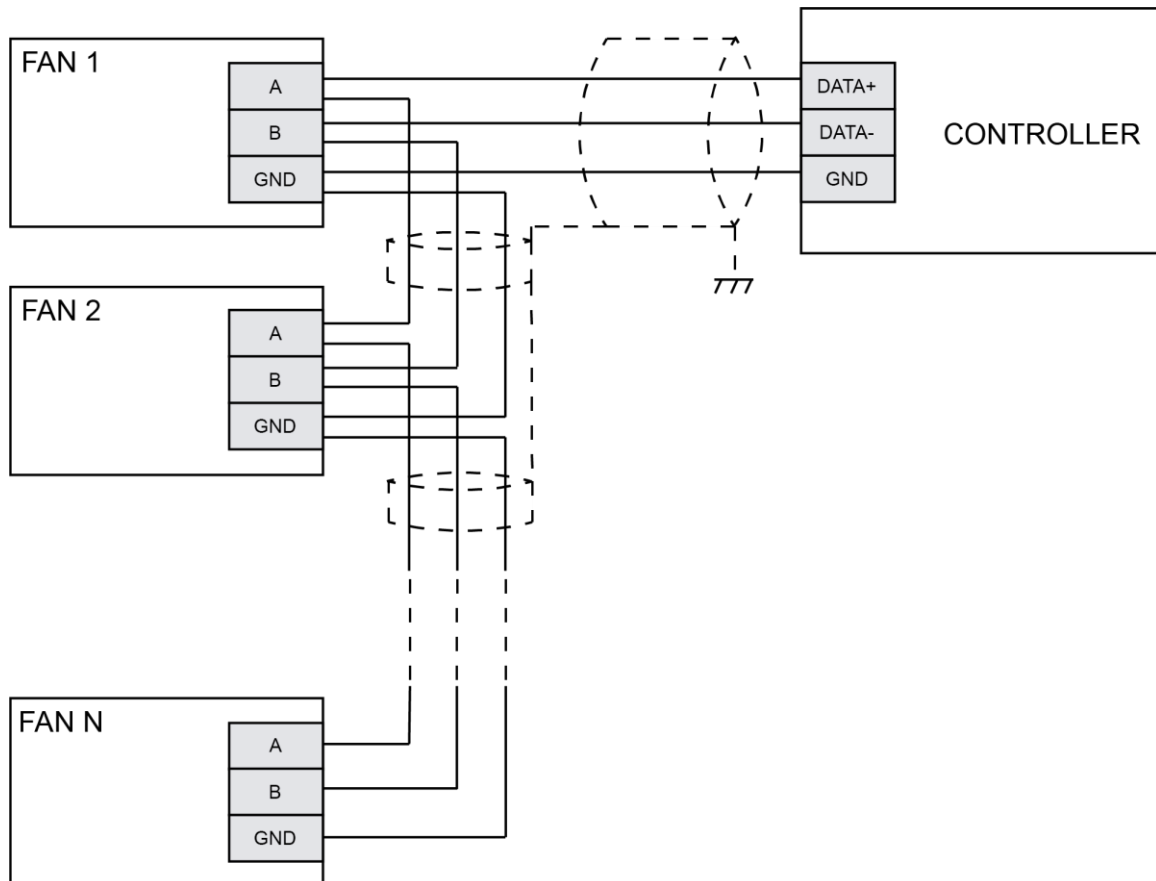


The electrical cables must be arranged in a separate circuit from the control cables to avoid interference.

5.2.1 Multiple Fan Installation

In installations with multiple fans, it is possible to control the fans using a single controller. In this case, the controller is connected to the different by using control connections A, B and GND.

The following figure shows the detail of the control connectors:



WARNING!

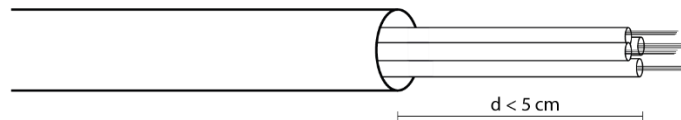
The earth meshes of each cable section must remain together. Failure to do so may lead to communication errors.

Connect only one end of the earthing to the ground. Failure to do so may lead to communication errors.

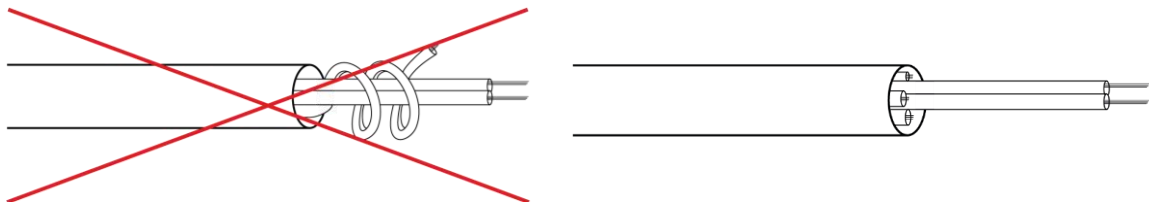
5.2.2 Recommendations

To ensure correct installation and functioning of the Modbus control fan, please keep in mind following recommendations:

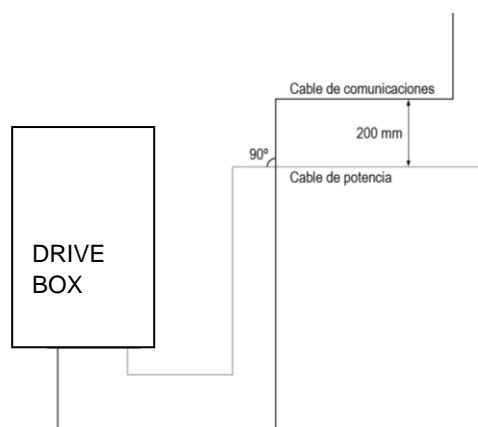
- 1- Please strip the wire 5cm as a maximum as shown below:



- 2- Communication cables cannot be wound. If it were done, they could act as an antenna. Communication cables that are not used have to be cut and left inside the shielded tube as shown below.



- 3- Please keep always a distance of at least 20cm between the power and the data cable. If both cables must cross at some point, please ensure that they do so at a 90° angle to prevent interference.



WARNING!

Do not strip the communication cable more than 5cm. Failure to do so may lead interferences.

Do not wind the unused communications cable. Failure to do so may lead interferences.

Maintain a minimum distance between electrical and communications wiring. Failure to do so may lead interferences.



Avoid power zones. Failure to do so may lead interferences.

6 OPERATION

Once the fan is powered, follow the next steps to start the fan:

- 1- Change the main switch placed on the side of the control box to the start position.
- 2- Check the status of the fan on the data display, as shown in table.
- 3- Adjust the potentiometer to the required speed.
- 4- Check the speed in the VFD screen.

To stop the fan, perform the procedure in reverse.

NO	DATA DISPLAY	CONTENT
Normal time		Normal running state
Failure time		Failure for the fan. Please, refer to chapter 7.



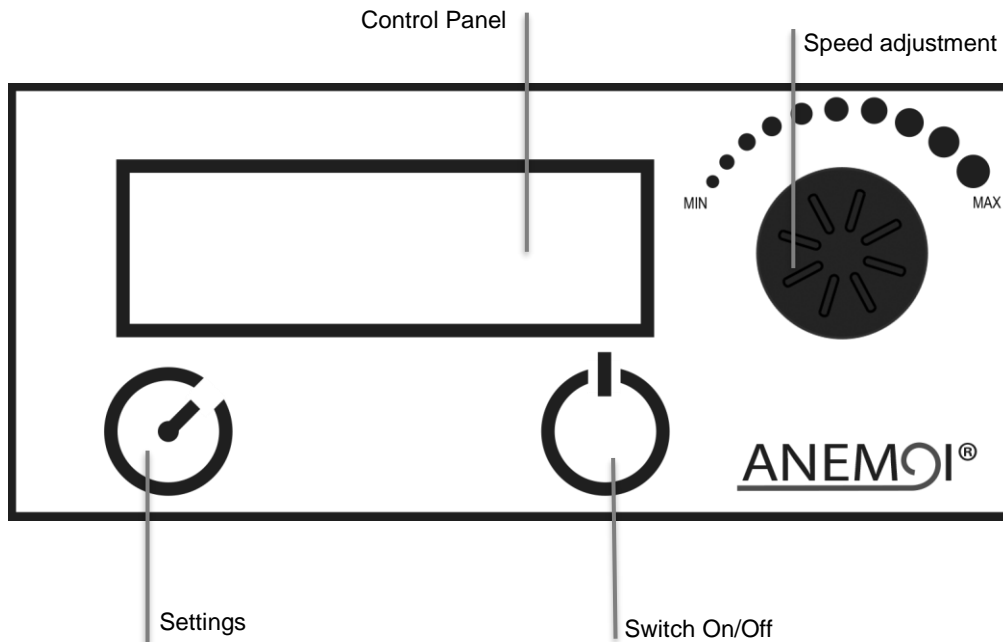
CAUTION!

Do not disconnect the fan for the current to start and stop the fan. Otherwise, the warranty would be voided.

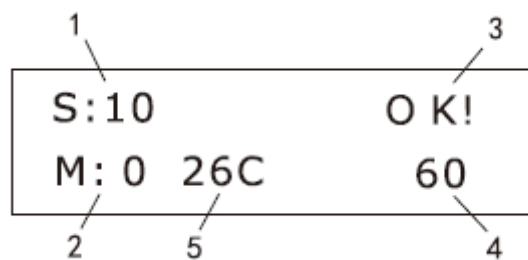
7 BASIC OPERATIONS

The Anemoi AIRWALL fans have an external controller that allows to temporize and regulate the power of the fan.

7.1 Operating panel



7.2 The data display



NO	DISPLAY	NAME	FUNCTION
1	S:10	Gear numerical	Display the gear value
2	M:0	Timing time	Show how long the fan is turned off
3	OK!/STOP!/E-IPM/AUTO	Start/Stop/Fail	Show the fan state
4	60	Speed	Show speed
5	26°C	Indoor temperature	Display room temperature

8 FAULT DIAGNOSIS

In case of failure, refer to the following table for quick solutions:

DISPLAY CODE	PROBABLE CAUSE	INSPECTION METHOD
E-STALL	Blocked	Unplug the fan from the power for 10s. Restart.
E-OV	Voltage above level	Check input voltage less than 282V. Check power connections.
E-UV	Voltage below level	Check input voltage more than 85V. Check power connections.
E-IPM	Fail connexion	Check the connections of wires. Check power cable.
Rd:ERIE-XT	Communication error	Check the communications wiring connections from the control screen to the power card.
E – OT	Excessive temperature	Clean the dust from the control board and filter with a soft dry cloth. Check that the indoor fan is not clogged and is working properly.

9 MAINTENANCE



WARNING!

Do NOT repair or clean the fan while it is in operation or connected to the power supply. Doing so may result in serious or fatal electrical shock.

Please maintain the fan as follows:

Every three months:

- Verify that the fan is working properly.
- Ensure that the fan does not make any noises or vibrations.
- Check that the blades have not received any impact.

Yearly:

- Check that there no alarms or faults in the variable speed drive located in the control box.
- Ensure that the extension rod screws are properly tightened.
- Ensure that the anchoring screws are properly tightened.
- Check that the safety cable is properly fastened.
- Check that the guy wires are properly tightened.
- Check power and control connections in the control box.

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